

What is claimed is:

1. A hydrodynamic bearing system, comprising:
a shaft;
a bearing sleeve, said bearing sleeve having an inner cylindrical bore
and said shaft being inserted into said inner cylindrical bore;
a bearing gap formed between said shaft and said bearing sleeve, said
bearing gap being filled with a lubricating oil; and
a shield enclosing said bearing sleeve,
wherein said shield is secured to an end surface of said bearing sleeve
at a position on said end surface that is distanced from said bearing gap, and wherein
said shield does not contact said lubricating oil.
2. The hydrodynamic bearing system according to Claim 1 further
comprising at least one bearing element mounted on said shaft, wherein said bearing
gap is formed between said bearing sleeve and said bearing element.
3. The hydrodynamic bearing system according to Claim 1 further
comprising a lubricating oil reservoir, wherein said shield is secured to said end surface
of said bearing sleeve at a position that is distanced from said lubricating oil reservoir.
4. The hydrodynamic bearing system according to Claim 1, wherein said
end surface of said bearing sleeve further comprises a recess distanced from said

bearing gap, wherein a wall is formed between said recess and said bearing gap, and wherein said shield is secured to said bearing sleeve within said recess.

5. The hydrodynamic bearing system according to Claim 1, further comprising a temperature barrier groove.

6. The hydrodynamic bearing system according to Claim 1, wherein said shield is secured to said bearing sleeve by laser welding.

7. A spindle motor having a hydrodynamic bearing system, said hydrodynamic bearing system comprising:

a shaft;

a bearing sleeve, said bearing sleeve having an inner cylindrical bore and said shaft being inserted into said inner cylindrical bore;

a bearing gap formed between said shaft and said bearing sleeve, said bearing gap being filled with a lubricating oil; and

a shield enclosing said bearing sleeve,

wherein said shield is secured to an end surface of said bearing sleeve at a position on said end surface that is distanced from said bearing gap, and wherein said shield does not contact said lubricating oil.

8. The spindle motor according to Claim 7 further comprising at least one bearing element mounted on said shaft, wherein said bearing gap is formed between said bearing sleeve and said bearing element.

9. The spindle motor according to Claim 7 further comprising a lubricating oil reservoir, wherein said shield is secured to said end surface of said bearing sleeve at a position that is distanced from said lubricating oil reservoir.

10. The spindle motor according to Claim 7, wherein said end surface of said bearing sleeve further comprises a recess distanced from said bearing gap, wherein a wall is formed between said recess and said bearing gap, and wherein said shield is secured to said bearing sleeve within said recess.

11. The spindle motor according to Claim 7, further comprising a temperature barrier groove.

12. The spindle motor according to Claim 7, wherein said shield is secured to said bearing sleeve by laser welding.

13. A method of manufacturing a hydrodynamic bearing system, comprising the steps of:

mounting a bearing element onto a shaft;

inserting said shaft with said bearing element into a bearing sleeve;

filling a bearing gap with lubricating oil while observing the fill level of said lubricating oil;

placing a shield onto said bearing sleeve such that said shield does not contact said lubricating oil; and

welding said shield to said sleeve.